BrainQ RSC/2

BrainQ

INSTALLATION MANUAL

BrainQ RSC/2 Thermostat

Series

8G.51.09.00/10.05

GB English

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General safety instructions

All electrical connections and safety measures have to be carried out by a specialist in due consideration of valid standards and VDE-guidelines as well as the local regulations.

Important!
Disconnect from mains power before opening.
Unauthorised attempts under voltage may damage the control or cause dangerous electrical shocks.

Safety measures for EMC - compliant installation

1. Cables with mains voltage must be generally routed separately from sensor lines and data bus cables. A minimum distance of 2 cm between the lines is mandatory. Crossing of lines is permitted.

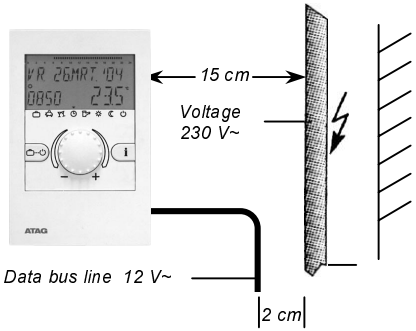


Fig. 1: Minimum distances for electrical installation

2. When installing the thermostat a minimum distance of 40 cm must be maintained to other electrical utilities with electromagnetic emissions, such as radios, motors, transformers, dimmer switches, microwave ovens and televisions, loudspeakers, computers, mobile phones etc.

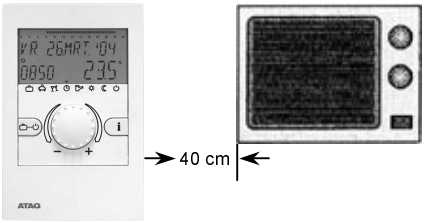
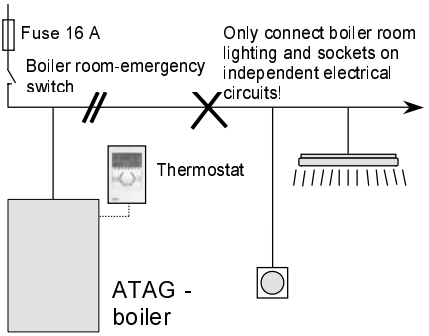


Fig. 2: Minimum distance to other electrical appliances.

3. The main connection for the heating system (i.e. boiler – and poss. accessories) must be designed as an independent electrical circuit. No fluorescent lamps or other disturbances should be connected or connectable.


Fuse 16 A
Boiler room-emergency switch
Only connect boiler room lighting and sockets on independent electrical circuits!
Thermostat
ATAG - boiler

Recommended cable cross-sections and maximum permitted cable lengths:

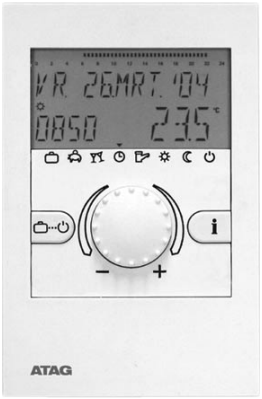
For the data bus line

Cross-section: 0.6 mm

Maximum permitted cable length: 50 m

Longer connecting cables should be avoided in order to reduce the risk of faults.

Installation of the thermostat



Mounting Location

a – for applications without room sensor (100% weather-dependent)

If the internal room sensor is not to be activated the unit may be mounted at any location indoors.

b – for applications with room sensor

With the room sensor activated, the thermostat should be mounted at a height of approx. 1.50 m at a neutral place, i.e. a measuring location representative of all rooms. It is recommended to chose a partition wall in the coolest day room. In order to ensure sufficient air circulation at the room control unit it must be mounted to the wall so that air can flow behind it.

The thermostat must not be mounted:

- at locations subjected to direct solar radiation (consider the position of the sun during winter).
- close to heat-generating appliances, such as televisions, refrigerators, wall lamps, radiators etc.
- on walls with heating or domestic hot water pipes or chimneys behind.
- on non-insulated outside walls
- in corners or wall recesses, shelves or behind curtains (insufficient ventilation)
- close to doors of unheated rooms (influence of low temperatures)
- on unsealed flush-type boxes (influence of external low temperatures due to the chimney effect of installation tubes)
- in rooms with radiators controlled by thermostatic valves (mutual influence).

BS 5449

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Mounting instructions

After removing the front panel by pressing the locking plug the mounting base can be taken off and mounted at the desired location using the enclosed dowel pins and screws. The data bus line must thereby be routed through the bottom cable opening.

Maximum cable length: 50 m

Note:
For new installations, use a flush-mounting switch box that is separated from the rest of the electrical installation to ensure perfect routing of cable.

↑ Locking

Connection to the ATAG boiler

The electrical connection must be in compliance with the terminal designation in the unit.

A = 20
B = 21

Connection panel burner

230 V~ Mains connection			230 V~ External pump			230 V~ ATAG-control			230 V~			8A.35.22.03	Domestic hot water connection						ATAG Outside sensor		ATAG Bus-therm.		On/Off room-therm.		External automatic circuit breaker		24 V~ 100 mA	
⏚	N	L	⏚	N	L	⏚	N	L	⏚	N	L		3-way valve				Sensor				A	B						
													CV	WW	N														
1	2	3	4	5	6	7	8	9		10	11		12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27

Electrical connection

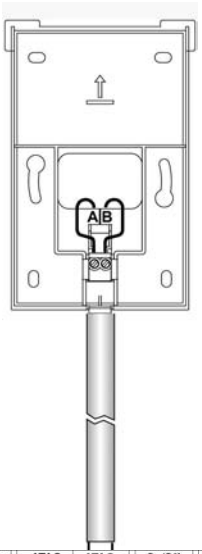
The 2-strand data bus cable is connected to terminals A and B of the 2-pole connection on the mounting base.

Important!

The connections are not interchangeable and must be installed in compliance with the identification A and B. If the two connections are mixed up by mistake, the display will not function.

Once the electrical connection is completed, the thermostat is hooked in flush at the top and folded down, until the locking lug audibly clicks into the mounting base.

Mounting base



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Accessories

Outdoor sensor

Outside sensor ARV12

Mounting Location

The outdoor sensor should be mounted on the most exposed and coldest side of the building (north or north-east) at a height of min. 2 m above ground.

Exception: If the preferred living area is situated in a different direction, you should choose the respective side of the building accordingly.

When mounting the sensor mind external heat sources (heated chimneys, warm hot air from air shafts, installation on black surfaces, thermal bridges in the wall, etc.) which could falsify the measuring value. The cable outlet must always be directed downwards in order to avoid the penetration of moisture.

The outside sensor may not be mounted close to transmitting or receiving equipment (on garage walls close to receivers for radio-controlled garage door openers, amateur radio antennas, radio controlled alert systems or close to large scale radio transmission equipment).

Electrical connection

For the electrical installation preferably use a 2-strand cable with a minimum cross-section of 0,6mm^2. The connection is made at the 2 screw terminals inside the sensor case and may be interchanged.

Mounting instructions

1– Route the sensor cable to the mounting location
2– Loosen lid screws from sensor case and remove top
3– Mount sensor base with enclosed central fastening screw.
Use sealing ring! The cable outlet must be directed downwards!
4– Insert the sensor cable so that the cable jacket is fully enclosed by the sealing lip.
5– Establish the electrical connection. The terminals may be interchanged.
6– Place the lid and screw it firmly onto the base. Ensure correct fit of sealing ring.

Resistance values of outside sensor depending on temperature

Outside sensor ARV12

T (°C)	R (Kohm)
- 20	98,93
- 15	76,02
- 10	58,88
- 5	45,95
± 0	36,13
5	28,60
10	22,88
15	18,30
20	14,77
25	12,00
30	9,804

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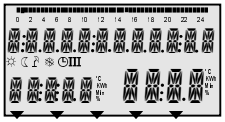
Commissioning of the thermostat

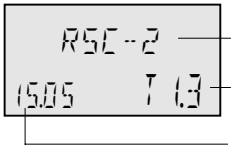
Segment test and identification

During the first activation of the thermostat or with each return of voltage after a power failure, all the segments available in the display will appear:



Segment test

This is followed by the thermostat version with type code and current software version.



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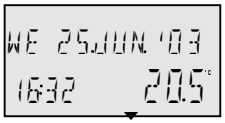
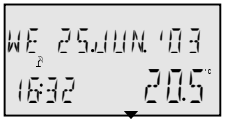
If there is no alarm present, the standard display with date, time and current ambient temperature will appear afterwards.
Thermostat display will light up when one of the keys is pressed. The light will go out automatically when no changes are made for about 90 sec.



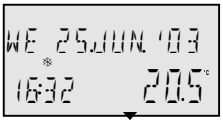
Standard display
Wednesday,
25. June 2003
16.32 hrs Temp. 20.5°C

An active summer switch-off is represented by a sunshade symbol (⛱).



Summer switching-off
activated

An active frost protection function is represented by a frost symbol (❄).



Frost protection
active

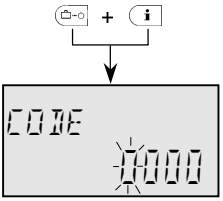
Code input

Installer code

After entering the installer code all parameters determined for the heating specialist are released and can be edited in accordance with the thermostat version.

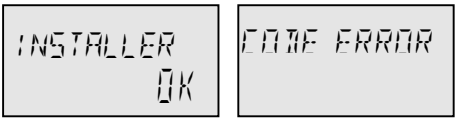
Code input

In order to enter the installer code the keys ⌂ and ⓘ must be simultaneously pressed for approx. three seconds, until the code input appears in the display.



Each flashing digit is set by means of the rotary pushbutton in accordance with the code number and confirmed by pressing the button. All other digits are entered in the same way.

After correct input of code the acknowledgement *INSTALLER OK* will appear upon acceptance of the last digit, in case of a wrong entry the message *CODE ERROR* will appear.



The factory set installer code is :

0 1 2 3

Note: If the code is not accepted you should consult the manufacturer!

Attention: Enabled installer parameters will be blocked again if no further action takes place over a period of ten minutes. In this case the installer code must be entered again.

Alarm messages

In order to be able to perform an exact diagnosis in case of a problem the control system is equipped with a comprehensive fault alarm system. Depending on the nature of the fault a corresponding fault message will appear in the display of the thermostat.

All fault messages are transmitted by the MCBA and are divided into

A – permanent faults (permanent locking) with MCBA error code E-XX

or

B – temporary faults (self-eliminating locking) with MCBA error code B-XX

Alarm message MCBA

Faults	Locking	EnX
Faults	Blockage	BnX

The display and processing of alarm messages can be suppressed by using a corresponding parameter (see Parameter 13 - SYSTEM level – Messages on thermostat active).

Further processing of errors:

– Errors appear in the standard display of the control

– System errors appear in the info-level at the corresponding info-value

– Errors may be taken over into the error message register (see description below).

Detailed information about errors from the MCBA can be found in the documentation for ATAG boilers.

Alarm message register

The thermostat is provided with an alarm message register, which is able to hold up to five alarms. The alarms are displayed with date, time, and nature of fault (error number), the errors are polled in the sequence of their occurrence in the level *ALARM*.

The last (= latest) alarm is prioritized at first position, alarms that have arrived before are pushed down one position on the list at every new alarm. Upon arrival of a new alarm the fifth alarm will be deleted.

Alarm messages of the MCBA

The alarm messages of the MCBA are a special case. Because these alarms are external faults, they are saved in the alarm message register of the thermostat as long as the burner is not re-installed.

Parameter synoptic

Entry into the programming level: Hold rotary push-button depressed for approx. 3 seconds - automatic call-up of timeprogram level
Select required level with rotary pushbutton and confirm, if necessary enter code beforehand

Without colour: Directly accessible **Light grey background:** accessible with code 1234
Dark grey background: accessible with code 0123

Param. No.	Time-Date	Time programs	Hydraulics	System-parameters	Domestic hot water circuit	unmixed circ.	Heat generator	Fault	Sensor adjustment
1	Time (min/h)	Selection of heating circuit HC, DHW		Language	Domestic hot water night temperature	Nightly set back		Alarm 1	Correction of room sensor
2	Year	Program selection P1...P3	Domestic hot water supply	Time program	Legionella protection day	Exponent		Alarm 2	Correction of outside sensor
3	Day-month	Weekday Mo...Su Heating cycle P1...P3		Separate operation	Legionella protect. (time)	Room sensor display		Alarm 3	
4	Su-Wi-timer	Switching-on time		Summer ECO-temperature	Legionella protect. (temp)	Room sensor function		Alarm 4	
5		Switch-off time	Unmixed circuit	Frost protected temperature		Heating curve adaptation	Limit mode Min-temp.	Alarm 5	
6		Cycle temperature			Maximum DHW-temperature	Inrush optimization			
7									
8						Minimum Room temperature			
9				Climate zone		Exceeding room temperature			
10				Construction					
11				Return to standard display					
12						Min. flow temperature			
13				Room sensor messages active		Max. flow temperature			
14						Exceeding boiler temperature			
15									
16					Domestic hot water temperature	niet zichtbaar onder 0123			
17									
18									
19									
20									
21									
22									
23						niet zichtbaar onder 0123			
24						niet zichtbaar onder 0123			
25						Day temperature	Outside temp. barrier		
26						Night temperature			
27						Heating curve adjustment			
28				Reset to factory values					
				system syst is directly accessible para 1,2,3,4,11,28		unmixed circ is directly accessible para 1,3,4,5,6,25,26, 27			

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HYDRAULIC Level

The parameters of this level refer to the general hydraulic system of the heating plant as well as to the functionality and configuration of the programmable inputs and outputs for the corresponding plant components.

PARAMETER	Designation	Setting range / Setting values	Fact. setting	Individual setting	From code
02	Function assignment of output for DHW-loading pump (type ..B..)	OFF No function 1 DHW ON	1		0123
05	Function assignment of unmixed circuit release	OFF No function 2 ON	2		0123

SYSTEM Level

The parameters in this level refer to the general limiting parameters and setting values in the heating system to be used.

PARAMETER	Designation	Setting range / Setting values	Fact. setting	Individual setting	From code
01	Font language selection	NL Dutch GB English F French I Italian	NL		1234
02	Number of enabled time programs	P1 Only one time program enabled P1-P3 Three time programs enabled	P1		1234
03	Enabling of separate control mode setting	1 Common adjustment for all heating circuits 2 Separate setting for each individual heating circuit	1		1234
04	Limit temperature for summer switch off	OFF no function 10-30 °C	20 °C		1234
05	Frost protection	OFF no function -20..+10 °C	3 °C		0123
09	Climate zone	-20...00.0°C	-12 °C		0123
10	Type of building	1 light construction 2 medium construction 3 heavy construction	2		0123
11	Time for automatic exit	OFF no automatic exit 0.5...5min automatic exit after expiration of set time	2 min		1234
13	Logical error message	ON, OFF	OFF		0123
PARA -RESET	Total reset	in dependence on access code only to released parameters	–		

DOMESTIC HOT WATER Level (DHW)

This level contains all parameters which are necessary to program the DHW system with the exception of the DHW time programs. When DHW sensor is fitted.
When sensor is not fitted under code 0123 parameters 1 to 16 are visible.

PARAMETER	Designation	Setting range / Setting values	Fact. setting	Individual setting	From code
01	DHW economy temperature	10 °C ... DHW standard temperature	20 °C		1234
02	DHW legionella protection - day	OFF No legionella protection Mo...Su Legionella protection on the specified weekday ALL Legionella protection every weekday	MO		1234
03	DHW legionella protection - time	00:00...23:50 o'clock	02:00		0123
04	DHW legionella protection - temperature	10 °C ... DHW maximum temperature	65 °C		0123
06	DHW- maximum temperature limit	20 °C ... Heat generator temperature	65 °C		0123
16	DHW basis temperature	10 °C ... DHW maximum temperature	63 °C		1234

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UNMIXED CIRC. Level

This level contains all necessary parameters for the programming of the unmixed heating circuit with the exception of the time programs

PARAMETER	Designation	Setting range / Setting values	Fact. setting	Individual setting	From code
01	Type of reduced operation	ECO - switch-off operation RED - set-back operation	RED		1234
02	Heating system (exponent)	1.00 ... 10.00	1,3		0123
03	Room intrusion (in connection with room sensor)	OFF, 1, 3	1		1234
04	Room factor	OFF, 10 ... 500 %, RC (only room control)	RC		1234
05	Heating curve adaptation	ON, OFF	ON		1234
06	Inrush optimization	OFF, 1 ... 8 h	1		1234
08	Room frost protection limit	5 ... 30 °C	10 °C		0123
09	Room thermostat function	OFF, 1 ... 5 K	1		0123
12	Minimum temperature limit	10 °C ... Setting maximum temperature limit	20 °C		0123
13	Maximum temperature limit	Setting minimum temperature limit	85 °C		0123
14	Temperature excess heat generator/heating circuits	0 ... 20 K	0 K		0123
16	Screed function	OFF, 1, 2, 3 (only if parameter 1-hydraulic level = OFF)	OFF		0123
23	Room control proportional part	1...100	8		0123
24	Room control integral part	5...240 min	15 min		0123
25	Daytime room temp. setvalue (basis value)	5.0...30°C	21°C		1234
26	Set back room setvalue (basis value)	5.0...30°C	16°C		1234
27	Heating curve slope	0,2...3,5	1,75		1234

ALARM MESSAGE Level

In this level up to five alarm messages can be stored, these are permanently updated.

PARAMETER	Designation	Setting range / Setting values	Fact. setting	Individual setting	From code
01	Alarm 1	Last alarm message			**0123**
02	Alarm 2	Alarm message before last			**0123**
03	Alarm 3	Third to last alarm message			**0123**
04	Alarm 4	Fourth to last alarm message			**0123**
05	Alarm 5	Fifth to last alarm message			**0123**

SENSOR CALIBRATION Level

In this level all sensors connected to the burner can be corrected by ± 5 K with respect to the factory settings.

PARAMETER	Designation	Setting range / Setting values	Fact. setting	Individual setting	From code
01	Room sensor adaptation	- 5 K ... +5 K		**0123**	**0123**
02	Outside temperature adaptation	- 5 K ... +5 K		**0123**	**0123**

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Notes

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Met deze vernieuwde uitgave vervallen alle voorgaande installatievoorschriften.

This renewed publication cancels all previous installation instructions.

Wijzigingen voorbehouden • We reserve the right to make changes

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